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KNOWLEDGE AND TECHNOLOGY – IMPLICATIONS FOR A STRATEGIC DESIGN – CROATIAN CASE

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Abstract

Globalization and internationalization processes continuously increase the quantity of information. All the information is quickly and easily accessible, and the problem is no longer scarcity of information, but its surplus. Economists need to be active and creative in solving this new problem, which requires new knowledge and competences. People have to master the skill of rapid acquisition of new knowledge and forgetting the obsolete information.

The increasingly dominant knowledge of economics requires a new design of knowledge structure. In economics, knowledge is not only a product, nor only a new business opportunity, but also a critical framework for developing specialized scientific information. Companies today require predominantly applicative solutions to their problems.

The implementation of the Bologna process in education of economists is under way at the Faculty of Economics in Osijek. The initial experience has opened up the possibility to redesign the education process into a life-long learning process for economists. The transition process should define Croatia as a small country successfully participating in the creation and exploitation of common knowledge and technology.

Keywords: Knowledge, Technology, Croatian case

1 Introduction

Knowledge workers will not be the majority in a knowledge society. Nevertheless, in many countries, if not in most of the developed countries, they will be the largest individual group in the population and in labour force. Even if other groups remain more numerous, knowledge workers will be the group leaving their mark on the new knowledge society, its leadership and its social profile.

They may not be the ruling class of the knowledge society, but they are certainly its leading class. By their characteristics, social stand, values and expectations, they are basically different from any group in history that has held a leading, if not a dominant, position. To begin with, a knowledge worker gets access to employment, knowledge jobs and social position according to his/her formal education.

The first implication is that education is to become the focal point of the knowledge society, with schools and universities as its key institutions. What kind of knowledge does everybody need? What knowledge mix is required by every citizen? What is the «quality» of learning and teaching? All this is going to become a central concern of the knowledge society and a crucial political issue. Indeed, it is probably not too far-fetched to expect that acquisition and distribution of formal knowledge will take the place in the knowledge society policies that was held by acquisition and distribution of ownership and income over the two or three centuries that we call the age of capitalism. We can predict with a high degree of certainty that the concept of «educated person» will soon be redefined.

The knowledge society will inevitably become much more competitive than any society known so far, for a simple reason that knowledge will be accessible to everyone and there will be no excuses for failure to accomplish results. There will be no «poor» countries, only those where knowledge governs. The same will hold for companies, industrial sectors and organizations of any kind, but also for individuals. In fact, developed societies have already become immensely more competitive for individuals compared to the societies in early 20th century, let alone those from earlier centuries. At that time, most people were denied a chance to rise above the class they were born into and followed in their father's footsteps in terms of occupation and social position.

Knowledge workers, whether their knowledge is basic or advanced, whether they have a little or much knowledge, will by definition become specialized. When applied, knowledge is efficient only if it is specialized – the more specialized, the more efficient.

Another important implication of the fact that knowledge workers have by necessity specialized is the need to work as members of an organization. Only organizations can provide the continuity required by knowledge workers to be efficient. An organisation is the only place where specialist knowledge can be turned into work performance.

In itself, specialized knowledge does not yield results. Market researchers only produce data. To turn data into information, and to make it effective in knowledge operations, marketing people are needed, as well as those from production and services. An expert needs to have access to an organization. This access can be in the form of consultancy or specialized services. For many knowledge workers it will be a full-time job in an organization, be it a government agency, university, company, or any other type of organization.

Results are not created by individuals. An individual is more of a cost centre than a result-producing centre. Results are created by organizations.

The process of globalization and internationalization continuously increases the quantity of information. Owing to modern ICT, especially the Internet and its services, time and space barriers are virtually non-existent. Information is quickly and easily accessible, which gives rise to an unprecedented problem: it is no longer information scarcity, but information surplus that is an issue now.

To be able to tackle these new problems, people have to look for and master new knowledge and skills. The traditional notion of literacy, including reading, writing, numerical and computer literacy, is becoming insufficient for a successful career and life. The acquired knowledge quickly becomes obsolete. People need to master the skill of rapid acquisition of new knowledge and displacing or unlearning the outdated knowledge.

2 The Situation in the Republic of Croatia

Universities experience a growing need for exchange, consultancy and support in terms of additional teacher training, programme and curricula development, and international cooperation. Programme quality is constantly facing new challenges which require further qualifications of programme participants.

The education management profile relates to the universities/faculties who wish to participate in the processes of establishing a European higher education system. In addition, due to increasing competition, they wish to ensure a better position for their institution in an appropriate manner.

The potentials here are, for example, in the support available for the cooperation with other institutions of higher education, or in the support when applying for EU-funded projects (example: Tempus programme).

Internal evaluation or self-evaluation is the basis for external evaluations by accreditation agencies or councils (obtaining licences).

Such accreditation has both positive and negative sides. Most countries are still in the process of learning. This new system is also quite bureaucratized, and the line between the assessments «satisfactory» and «not satisfactory» is very thin. The advantages of such evaluation lie in the fact that in recent years most institutions have been developing their quality in keeping with the cycle: plan – set up – check – act, which is actually the basic principle of total quality management.

Even if Croatia is not very different from other European countries when it comes to the implementation of the Bologna process, it is essentially different with respect to the foundations on which these adjustments are based. A serious obstacle is the way in which Croatian universities are managed, where there are only narrow possibilities for coordinated and integral activity guidance and for the articulation of university strategy and policies.

This is the consequence of failure to conduct an organic integration of university, which is the original sin of the current legislation.

The outlines of new life at Croatian universities are taking shape, the way of working in which the student is the main criterion for everything that happens. Many more university teachers are required for the increasing number of students, and this is the area where the government needs to put more funds into education. The management of each university or polytechnic plays a vital role in obtaining those funds.

A graduate who has been educated by means of best methods for knowledge acquisition and encouraging personal growth in a competitive environment is a desirable acquisition for any company. Such an individual is qualified to quickly join in his company's battle on the world market, and thus to contribute in its development into a «knowledge company». This is certainly one of the strategic guidelines of university/polytechnic management teams, and a strategic aim of Croatia in its efforts to become a «knowledge society».

3 A Croatian Case – University of J. J. Strossmayer in Osijek

By adopting the Bologna Declaration and its aims, each organizational unit in higher education has taken on the obligation to promote European cooperation in quality assurance by developing its own quality assurance system.

Having devised the quality assurance and improvement system, the University of Josip Juraj Strossmayer in Osijek has joined the national network for quality assurance in higher education.

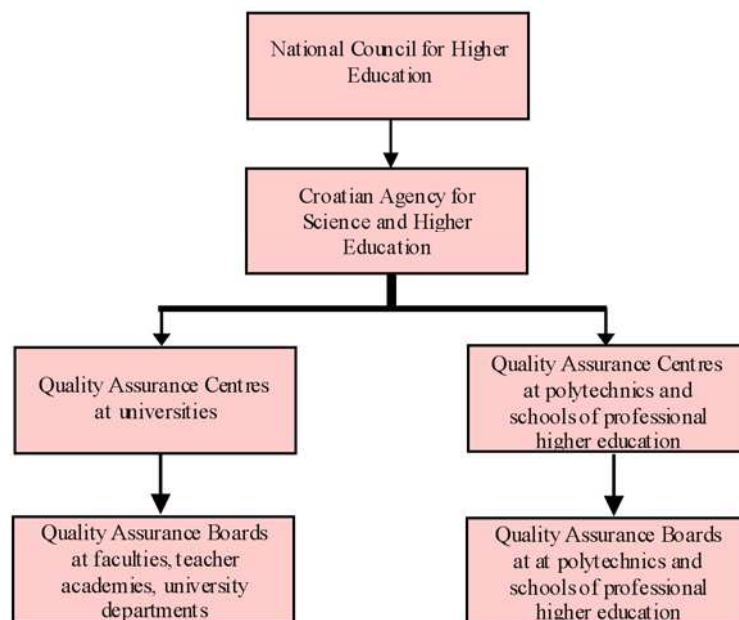


Figure 1. Chart of the quality assurance system at Croatian institutions of higher education¹

¹ Priručnik za uspostavu sustava upravljanja kvalitetom u visokom obrazovanju, Sveučilište u Zagrebu, 2004.



Figure 2. Organizational structure of the quality assurance system at the University of J.J. Strossmayer in Osijek

The quality assurance system at the University of Josip Juraj Strossmayer in Osijek aims to improve the quality of student experience during their studies – starting from the application and enrolment, through lectures, exams, graduation, to finding employment and life-long learning.

The quality of the teaching process is the capability of university – its teaching staff, management and services – to meet students' needs and to achieve knowledge transfer by means of modern teaching methods and technologies.

The student is at the centre of the quality monitoring, assurance and improvement at the University of Josip Juraj Strossmayer in Osijek. It is not the institution, or its services, university management or the teaching staff that are the focal point. All this, together with the research work is evaluated through the prism of studying experience at a particular university. The student is an active subject in the system, whereas the system is used to monitor, evaluate and improve the quality of student experience in the course of their studies.

The University of Josip Juraj Strossmayer in Osijek is using the quality assurance system to make certain improvements in comparison to the recent situation, as shown in the survey conducted during the academic year 2005/2006.

Here are some interesting indicators:

- Exam pass rate is 42.21 %
- Average grade at exams is 3.47 (with 5 being the best, and 2 the lowest passing grade)
- Of the total number who applied, 60.29 % were admitted
- The average length of studies is 6.68 years

Two thirds or 69.5% of students at the University of J.J. Strossmayer in Osijek drop out of university, and the goal is to increase the number of graduates to 50 % in the future.

Some indicators (students who drop out of university, the number of graduates and the number of teaching staff) show different deficiencies in the teaching process.

In order to improve the quality of the whole education process, the project for improving the quality of studies has been initiated. It is expected that the following years will bring significant improvements in the education process and enhance student success rate in all the areas of their studies. The overall aim is to reduce the number of students who drop out, i.e. discontinue their studies.

In quantitative terms, the aim is to increase the number of students who graduate by 30 %, decrease the number of dropouts from 69.5 % to 50 %, and to increase the number of teaching staff by 25 % as a prerequisite for future success, all within the next three years.

Objectives	Current situation	Improvement by 2010
<i>Percentage of students who drop out of university</i>	69.5 %	↓ 50 %
<i>Number of graduates</i>		↑ 30 %
<i>Number of teachers</i>		↑ 20-25 %

Figure 3. Development plan for the education system 2005-2010

Meeting these objectives will bring satisfaction to all the stakeholders – students, teachers, university and faculty management, supporting services and the community as a whole – which is a precondition for efficient integration into global trends of modern higher education in Europe and around the world.

The foundation for achieving the above-mentioned goals is the strategic approach which has devised a model based on more efficient knowledge transfer supported by information and communication technologies.

4 Instead of Conclusion

When speaking of improvements, i.e. the necessary changes in Croatian higher education we have to start from the quality level of the former education system. The higher education system in the Republic of Croatia has experienced a profound change and now it will take a certain amount of time to complete the harmonization of the entire system with the European system of higher education.

The quality assurance system at the University of Josip Juraj Strossmayer in Osijek is undoubtedly an important segment of the overall reform of Croatian higher education (the Bologna process), and the reform at the Osijek University itself.

Quality assurance system is a kind of benchmarking for universities, based on comparisons of performance at our University with performance at leading or our partner universities. The findings show clearly where the major problems and deficiencies are, and which changes and improvements are necessary.

These changes and improvements, carried out through the quality assurance system as a benchmarking tool, have to be based on self-evaluation, resulting in the University's advancement and enhanced competitiveness. Benchmarking is not a one-time assessment of the situation at the university; rather, it is a continuous process that can be implemented in different ways.

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